

Title (en)

METHOD AND SYSTEM OF EXECUTING COHERENT OPTICAL COMMUNICATION USING CONTINUOUS-VARIABLE QUANTUM CRYPTOGRAPHY AND A REMOTE CV LASER SOURCE

Title (de)

VERFAHREN UND SYSTEM ZUR AUSFÜHRUNG KOHÄRENTER OPTISCHER KOMMUNIKATION UNTER VERWENDUNG EINER KONTINUIERLICH VARIABLEN QUANTENKRYPTOGRAPHIE UND EINER ENTFERNTEN CV-LASERQUELLE

Title (fr)

PROCÉDÉ ET SYSTÈME D'EXÉCUTION D'UNE COMMUNICATION OPTIQUE COHÉRENTE UTILISANT UNE CRYPTOGRAPHIE QUANTIQUE CONTINUE-VARIABLE ET UNE SOURCE LASER CV À DISTANCE

Publication

EP 4113897 A1 20230104 (EN)

Application

EP 21182660 A 20210630

Priority

EP 21182660 A 20210630

Abstract (en)

The invention relates to the field of quantum cryptography and in particular to continuous-variable quantum key distribution (CV-QKD). The invention refers to a method of executing coherent optical communication of quantum information between an emitter (130) and a distant receiver (110) connected by two optical channels (125, 145) using continuous-variable quantum cryptography with suppression of Brillouin scattering distortions, wherein the receiver (110) comprises a CW laser (111). The invention also relates to a corresponding system.

IPC 8 full level

H04L 9/08 (2006.01)

CPC (source: EP)

H04L 9/0852 (2013.01)

Citation (applicant)

- R. VALIVARTHI ET AL.: "Quantum key distribution using Gaussian-modulated coherent states", NATURE, vol. 421, 2003, pages 238 - 241
- RAINER ENGELBRECHT: "Nichtlineare Faseroptik, Grundlagen und Anwendungsbeispiele", 2014, SPRINGER, pages: 283
- LUMENTUM: "Suppression of Stimulated Brillouin Scattering", 5 March 2021

Citation (search report)

- [A] ADRIEN MARIE ET AL: "Self-coherent phase reference sharing for continuous-variable quantum key distribution", ARXIV.ORG, CORNELL UNIVERSITY LIBRARY, 201 OLIN LIBRARY CORNELL UNIVERSITY ITHACA, NY 14853, 12 May 2016 (2016-05-12), XP080700983
- [A] PIRANDOLAS ET AL: "Advances in Quantum Cryptography", ARXIV.ORG, CORNELL UNIVERSITY LIBRARY, 201 OLIN LIBRARY CORNELL UNIVERSITY ITHACA, NY 14853, 4 June 2019 (2019-06-04), XP081373072
- [T] YASUHIRO AOKI ET AL: "INPUT POWER LIMITS OF SINGLE-MODE OPTICAL FIBERS DUE TO STIMULATED BRILLOUIN SCATTERING IN OPTICAL COMMUNICATION SYSTEMS", JOURNAL OF LIGHTWAVE TECHNOLOGY, IEEE, USA, vol. 6, no. 5, 1 May 1988 (1988-05-01), pages 710 - 719, XP000006277, ISSN: 0733-8724, DOI: 10.1109/50.4057

Cited by

CN116125724A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4113897 A1 20230104; EP 4113897 B1 20240424

DOCDB simple family (application)

EP 21182660 A 20210630